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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

POLYANSKY, ALEXANDER

ART UNIT

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1793

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/568,342	Applicant(s) MITCHELL ET AL.	
	Examiner ALEXANDER POLYANSKY	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-9 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-9 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claims 1, 4-9, and 11 remain for examination, where claims 1, 4-9, and 11 have been amended; claims 2, 3, and 10 have been cancelled.

Status of Previous Rejections

The 35 U.S.C. 102(b) rejection of claim(s) 1-11 as being anticipated by Stephenson US 6866835 has been withdrawn in view of the applicants' amendment filed February 25, 2009.

The 35 U.S.C. 112, 1st paragraph rejection of claims 1-11 has been withdrawn in view of the amendment filed February 25, 2009.

Specification

The amended specification was received 25 Feb 2009 and was accepted.

Drawings

The amended drawing (figure 1) was received on 25 Feb 2009. This drawing was accepted.

However, as to figure 2, the drawing is objected to under 37 CFR 1.83(b) because it is incomplete. 37 CFR 1.83(b) reads as follows:

When the invention consists of an improvement on an old machine the drawing must when possible exhibit, in one or more views, the improved portion itself, disconnected from the old structure, and also in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure

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must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Interpretation

In view of the Response to the Amendment, the examiner will interpret system of claims 1, 4-9, and 11 to mean apparatus, since the claimed subject matter is drawn to a reactor, as in claim 1.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 4-9, and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the

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relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 does not contain language introduced from claim 10 because claim 10 never recited a second reactor. Claim 10, as originally filed, only referred to a first and second **parts** of energy production system.

In claim 11, the amended limitation of “Brownian motion” has no support in the original specification.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term of “Brownian motion” used in the instant application is indefinite as to the scope of the invention since applicants never disclosed Brownian motion in the application as filed. There should be a mathematical algorithm supporting the notion that Brownian motion supports introduction of steam at some temperature and pressure and that some portion of the steam generated energy is used by the reaction systems. It is unclear what aspect of the invention does Brownian motion support. The limitation will not be examined on the merits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1, 4-9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephenson US 6866835 in view of Schora et al., US 3442620. '835 is applied to claims 1, 4-9, and 11 as set forth in the 10/15/08 Office Action.

Regarding amended claim 1, Stephenson teaches all the limitations in the recited claim as applied in the Office action dated 15 Oct 2008. However, Stephenson does not explicitly teach a second reactor “including the step of introducing steam....” However, in a process similar to Stephenson, wherein production of hydrogen is taught, Schora teaches production of hydrogen via steam-iron process (title). At the time of invention it would have been obvious to a person of ordinary skill in the art to combine the reactor of Stephenson with the reactor of Schora to make two reactors in view of the teaching of Schora. The suggestion or motivation for doing so would have been to make more hydrogen in the second reactor.

Furthermore, Stephenson teaches a generator (col. 7, line 16) that may also include an inbuilt heat exchange system that can be used to transfer heat from an exothermic chemical reaction in the cell or control the rate of the exothermic chemical reaction. The heat exchange system may operate by condensing the steam produced by the direct heating of the water in the aqueous system by the reaction. The heat exchange system may be used for other purposes (eg, domestic heating) or simply as a way of controlling the rate of reaction in the generator (col. 7, lines 32-43). In view of this, it is the examiner's position that it would have been obvious to one of ordinary skill in the art to add a second reactor of Schora in the non-electrolytic energy apparatus of Stephenson in order to produce and deliver the steam necessary for the non-electrolytic process in the second reactor to maximize the efficiency of the energy output from

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the first reactor and input into the second reactor by promoting the self-activating reaction with the aid of steam.

Regarding amended claims 4-9 and 11, Stephenson teaches all the recited limitations as delineated in the rejection of claim 1 above and the previous Office action.

Further with regard to claim 1, 4-9, and 11, it is the examiner's position that while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function (MPEP 2114) and even further, expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. See MPEP 2115. Therefore, selecting the half cells, providing a catalytic surface, and other such process limitations do not impart patentability because they are drawn to the use of the apparatus rather than to its' structure.

The following are the claimed limitations which are not directed to limit the structure of the reactors:

- a non-electrolytic energy production system for dissociating H₂O molecules at or near a reactive or catalytic surface

- the step first reactor being of a primary reaction system that includes the steps of introducing selecting an electronegative half cell reaction producing hydrogen;

- selecting a first electropositive half cell reaction having a sufficient potential to drive said electronegative half cell reaction;

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-selecting a second electropositive half cell reaction; said first and second electropositive half cell reactions selected in combination with said electronegative half cell reaction to produce hydrogen and/or energy production from water; and

-combining said half cell reactions;

-introducing steam produced as a by-product of the first reactor at elevated temperature and a positive pressure into an enhanced the second reactor,

-energy added to the second reactor by the addition of the steam is used instead of energy provided as an applied electrical current by reaction systems in the second reactor as activation energy,

-introducing steam at elevated temperature and a positive pressure as is the sole energy input, wherein a portion of the energy added to the reactor system by the addition of the steam is used by reaction systems in the reactor to the number of dissociated H₂O molecules at or near a reactive or catalytic surface through Brownian motion.

Response to Arguments

Applicant's arguments filed February 25, 2009 have been fully considered, but they are not persuasive.

Arguments are summarized as follows:

(I). The applicants submit that the claims as amended define an invention having two reactors, a first reactor being a primary reaction system, and a second reactor introducing steam produced as a by-product of the first reactor.

(II). Applicants assert that paragraph [0032] clarifies that the catalytic point may be a reactive or catalytic surface (e.g., a sheet member, as opposed to, for example, a point on a

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surface or within a zeolite). The catalytic point may not be a reactive/catalytic surface, and therefore we believe that this paragraph does not "merely restate the obvious" but rather clarifies what the catalytic point may be.

(III). The applicants submit that a skilled artisan would be able to utilize Figure 2 in combination with the descriptive portion of the specification to realize the claimed invention as amended.

Responses are as follows:

(I). The arguments are moot in view of the new rejection of Stephenson in view of Schora as applied to claim 1 above.

(II). The argument is moot in view of the withdrawal of the objection.

(III). The examiner is not persuaded for the following reasons:

(i). the applicant has not explicitly pointed out which part of figure 2 is the prior art and which is the claimed invention,

(ii). the applicants do not provide a single example of the invention apparatus or process to show that the process imparts patentability,

(iii). the specification is not descriptive nor does it point out specifically what portions of the reactor or "reactors" the process is directed to, and

(iv). the figures have no labels that would provide a description or a guided set of steps to compare with the specification.

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Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER POLYANSKY whose telephone number is (571)270-5904. The examiner can normally be reached on Monday-Friday, 8:00 a.m. EST - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-270-6904.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ALEXANDER POLYANSKY/
Examiner, Art Unit 1793

/Roy King/
Supervisory Patent Examiner, Art Unit
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